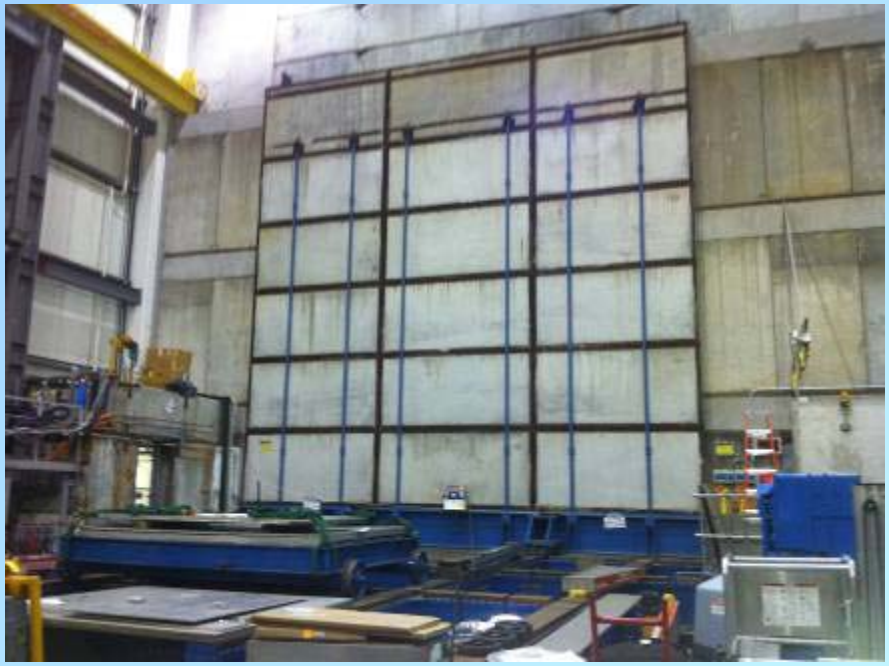
PHENIX

TECHNICAL SUPPORT 2011

PHENIX WEEKLY PLANNING



5/5/2011

Don Lynch

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TECHNICAL SUPPORT 2011

This Week:

Complete Au-Au 18 GeV and switch to 200 GeV

Maintenance Access (yesterday)

- DC broken wire repair
- VTX connector troubleshooting
- PbGl troubleshooting

VTX Closeout with DOE -

Continue Prep for FoCal prototype installation (waiting for prototype)

Continuing mechanical, electrical and gas system support for Run 11

Continue planning for shutdown 2011

Future upgrades support

Next Week

Begin Data taking for 200 GeV

No Scheduled Maintenance Access? VTX connector troubleshooting?

Continue Prep for FoCal prototype installation (waiting for prototype)

Continuing mechanical, electrical and gas system support for Run 11

Continue planning for shutdown 2011

Future upgrades support

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TECHNICAL SUPPORT 2011

Planning For the 2011 Shutdown

- Prep for shutdown — 2/1-6/30/2011
  - Define tasks and goals
  - Analysis and design of fixtures, tools and procedures
  - Fabricate/procure tools and fixtures
  - Tests, mockups, prototypes
  - Receive, fabricate, modify, finish installables (bigwheels, tubing, etc.)
  - **MuTr, RPC1 and VTX/FVTX installation review (combined)** — **~6/15/2011**
  - Assembly and QA tests
- AH Crane temporary reconfiguration (crane out of service during reconfig) — 4/15-5/15/2011
- Run 11 Ends — 6/30/2010
- Shutdown Standard Tasks — 7/1-7/21/2010
  - Open wall, disassemble wall, Remove MuID Collars,
  - Move EC to AH, etc.
- IR Crane repairs and upgrade — 7/21-7/28
- Disassemble VTX services — 7/11-7/22
- Remove VTX and transport to Chemistry Lab — 7/25/2011
- BBC North maintenance — 7/22-7/29/2011
- MuTr North Station 1 work — 7/25-9/30/2011
  - Install access (scaffold) (1 week)
  - Disconnect Cables, hoses etc (1 week)
  - Remove FEE plates and chambers (1 week)
  - Station 2 Maintenance/upgrade through access opened by station 1 removal (3 weeks concurrent with next task)
  - Clean/install new parts and upgrades (3 weeks, concurrent)
  - Re-install chambers and FEE plates (1 week)
  - Re-cable, re-hose and test (3 weeks)

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TECHNICAL SUPPORT 2011

Planning For the 2011 Shutdown (cont'd)

• VTX maintenance/upgrade and integration of FVTX onto VTX support structure	7/25-9/25/2011
• Disassemble/repair/upgrade/test/reassemble VTX (3 weeks)	
• Resurvey as necessary (1 week)	
• Install FVTX (3 weeks)	
• VTX/FTX survey and QA tests (2 weeks)	
• RPC1 and Absorber upgrades	7/25-10/28/2011
• Install north absorbers (1 week)	
• Install north RPC1 (3 weeks)	
• Install south absorbers (1 week)	
• Install south RPC1 (3 weeks)	
• Upgrade AH crane	8/15-9/15/2011
• DC/PC1 East troubleshooting (DC moved forward on rail for access)	9/15-10/15/2011
• Install VTX&FVTX (2 weeks)	9/26-10/7/2011
• Undefined detector subsystem maintenance and repairs	7/25-10/7/2011
• Prep for EC roll in	10/3-10/7/2011
• Roll in EC	10/10/2011
• Prep IR for run	10/10-10/17/2010
• VTX, FVTX and RPC1 Services and commissioning	9/16-10/31/201
• Pink/Blue/White sheets	10/17-10/31/201
• Run 12 cooldown	11/1/2011

Tools/Fixtures Needed for Shutdown 2011

- FVTX/VTX modified assembly fixture – in progress
- FVTX Inspection Tool(s) – not yet specified
- Modified FVTX/VTX installation/transport fixture(s) – in progress
- RPC Absorber assembly tool(s) – need absorber design first
- RPC Absorber installation tool(s) – need absorber design first
- Station 1 north/south scaffolding – in progress
- RPC1 assembly fixture(s) – need RPC1 design first
- RPC RPC1 transport/installation fixture(s) – need RPC1 design first
- MuTr vacuum lifter dummy load (for load test and mock install) – in progress
- MuTr stations 2/3 north access scaffolding – meeting 5/16 for spec
- MuTr stations 2/3 north assembly/positioning/holding fixture – meeting 5/16 for spec

Parts Needed for Shutdown 2011

- Improved/upgraded VTX parts – not yet specified
- VTX assembly(s) – not yet specified
- FVTX support structure – in progress
- FVTX big wheels – parts to be fabricated by FVTX group; brazing to be done locally, expect parts next week
- Big wheel mounts – by FVTX group – Done
- VTX arc cable trays and mounts – Design done, fabrication in progress
- RPC absorber components/assemblies/mounting/tools and fixtures – waiting for RPC group design
- RPC1 components/assemblies – by RPC group in progress
- RPC1 mounting/installation components – concept ready waiting for final design input from RPC group
- BBC N& S wire management modifications – waiting for RPC1 final design
- MuTr station1/2/3 Repair/upgrade components – parts to be supplied by MuTr group.

Parts Needed for Shutdown 2011

- **Parts for Other Shutdown Work**
  - Misc. Subsystem Part(s) – not yet specified
  - Gas Mixing House Maintenance and upgrade parts – not yet specified
  - PHENIX Infrastructure Maintenance and improvement parts – not yet specified
  - Gas Pad maintence/repair/upgrade parts – not yet specified
  - PC1/DC repairs and improvements parts – not yet specified
  - IR Bridge electrical service upgrade parts – not yet specified
  - FoCal Support parts – not yet specified
  - RPC Factory Support parts – not yet specified
  - Rack room upgrades parts – not yet specified
  - CM Crane parts – project is on hold indefinitely
  - CM Alignment Stop parts – in design queue
  - Gas system maintenance/repair/upgrade parts – not yet specified
  - Future upgrade support parts – not yet specified

Procedures for Shutdown 2011

- Existing PHENIX General Purpose Recurring Task procedures
- VTX Removal
- FVTX/VTX installation
- VTX Survey
- FVTX Survey
- FVTX Cooling System
- RPC borated PE/Pb or Li Absorber
- RPC1 Installation/QA testing/Survey
- MuTr Maintenance & Upgrade
- MuTrigger Maintenance and Upgrade

Procedures will be part of 1 WP for VTX and FVTX

Procedures will be part of 1 WP for RPC1 & thermal neutron absorber

Work Permits for Shutdown 2011

- Start of Shutdown
- VTX Removal/FVTX/VTX Installation
- MuTr Maintenance and Upgrade
- RPC Absorber Upgrade/RPC1 Installation
- MuTrigger Maintenance and Upgrade
- End of Shutdown

AH and IR Crane Corrective Actions

IR Crane 1 ton replacement parts received. Paul and Mike R. planning for upgrade work.

AH Crane (both hooks) out of commission until repaired. CAD engineering evaluating options:

The Plan:

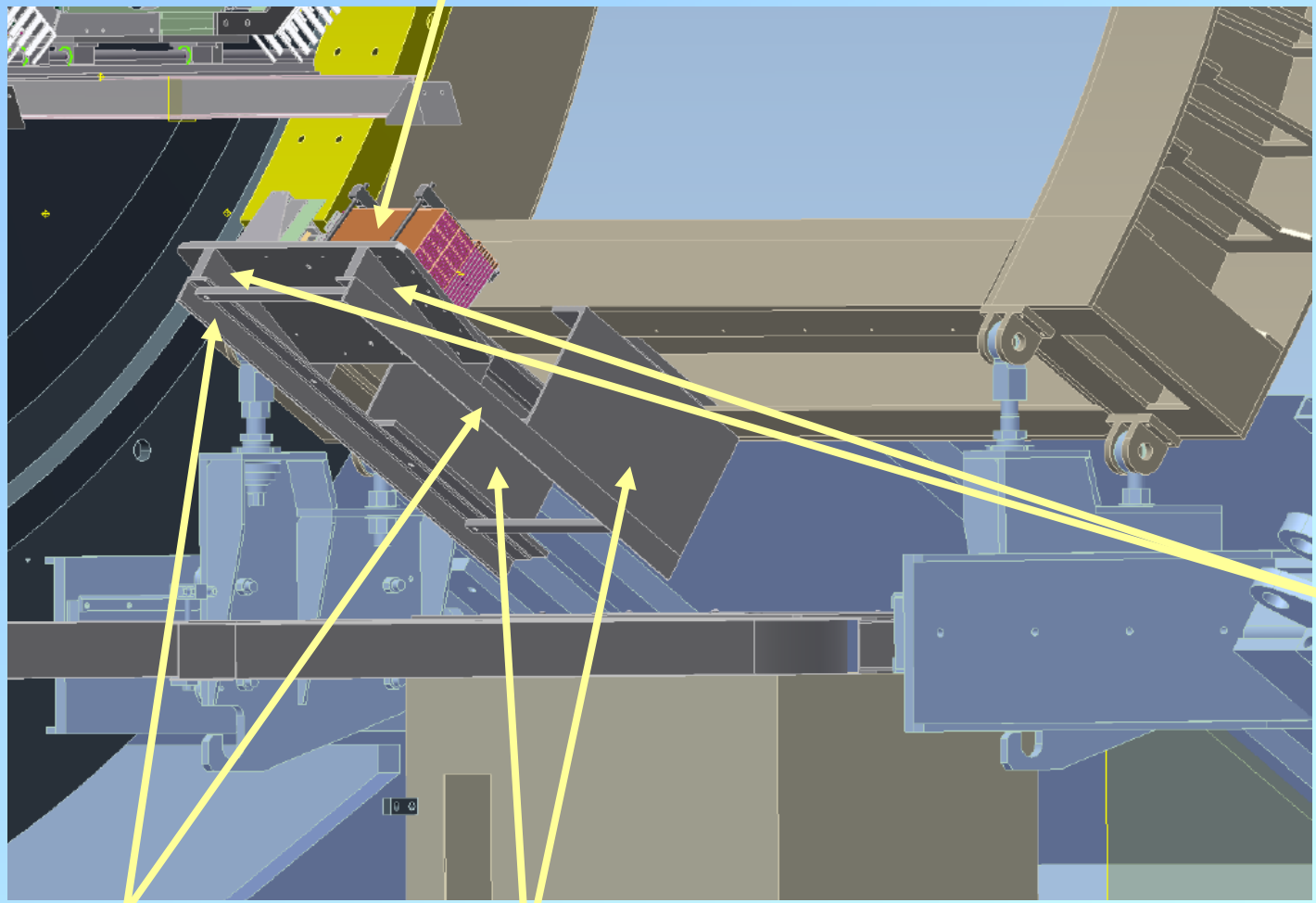
A. Remove speed reduction and use as originally equipped – By May 15 THEN…

B. Add bracketry to recertify as is – Feasibility under review – Probably NO GO

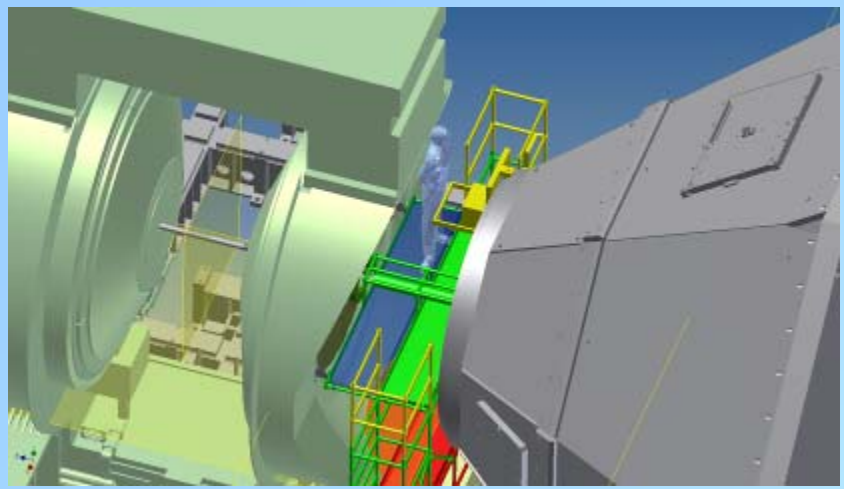
C.New Drive – cost and lead time Preferred, but can't be installed for this year

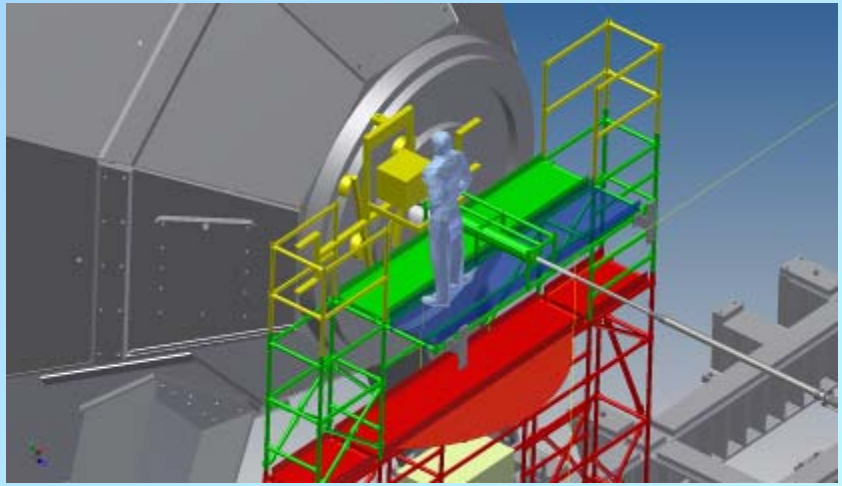
Expect to have 40 ton Crane back in service by May 15
Don't expect 10 ton crane to be back in service until Sept., at the earliest, possibly until 2012

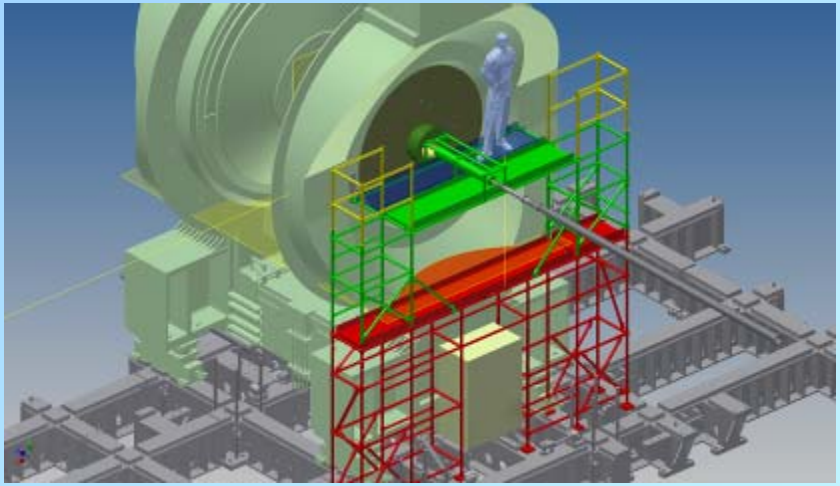
TECHNICAL SUPPORT 2011

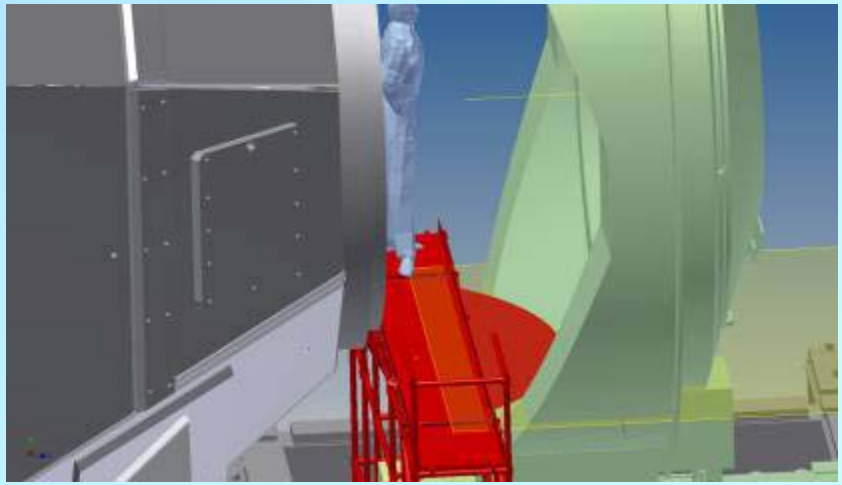


MuTr & RPC1 Work platform/scaffold









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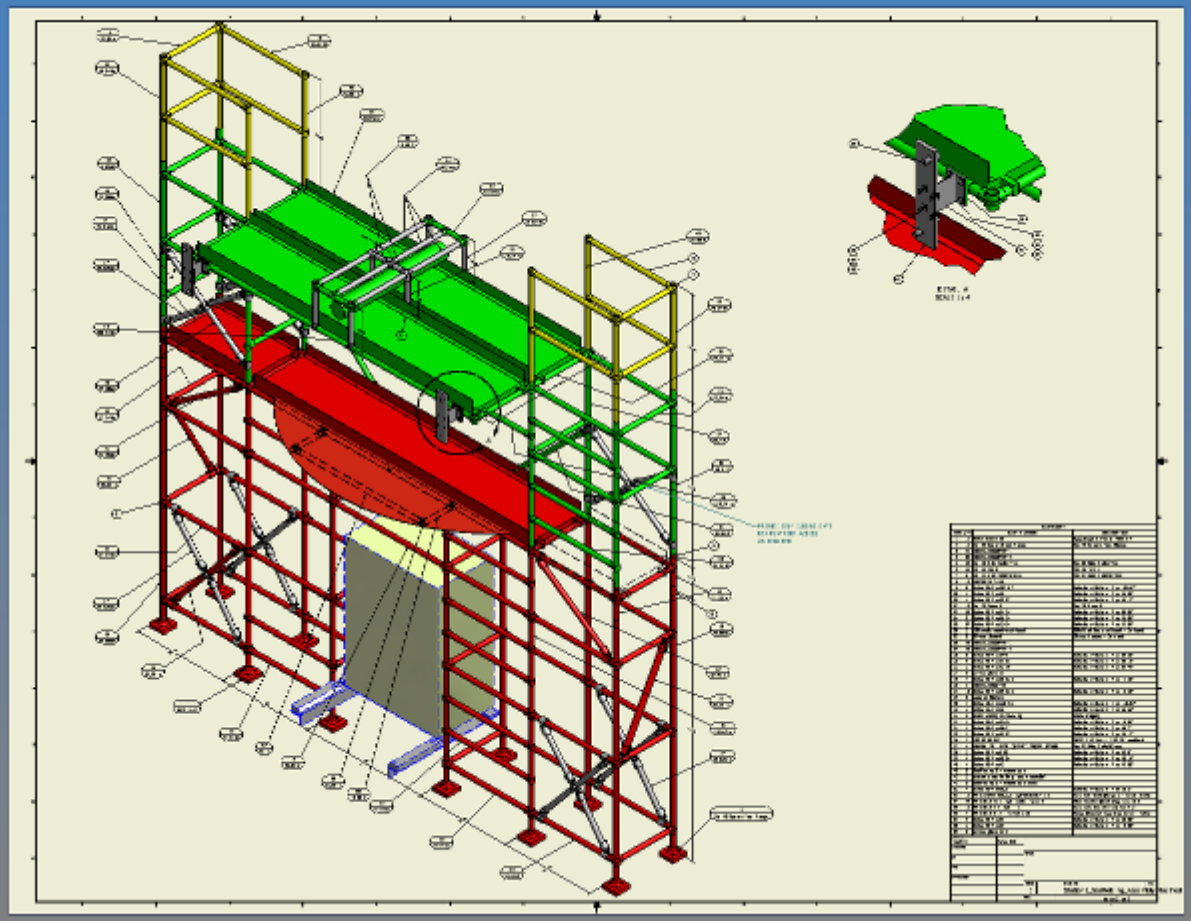

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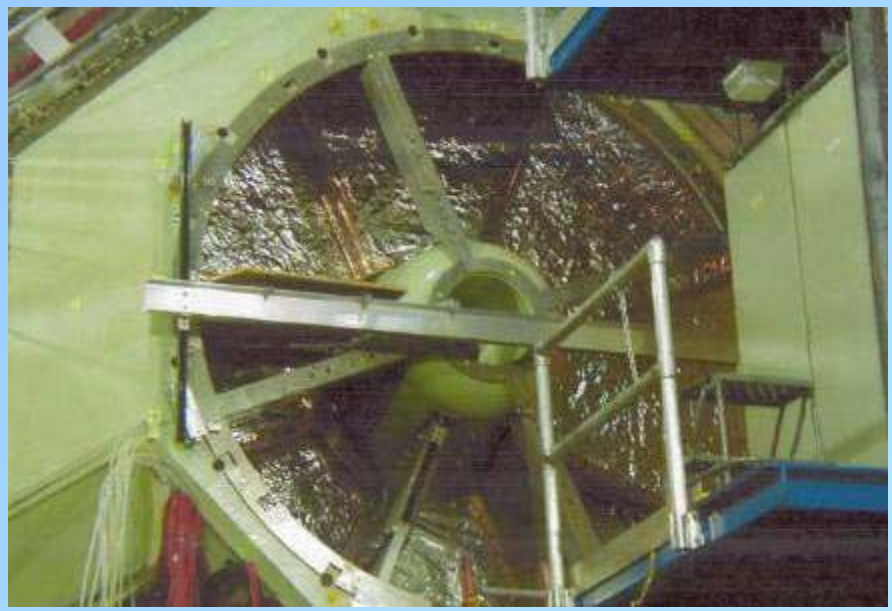
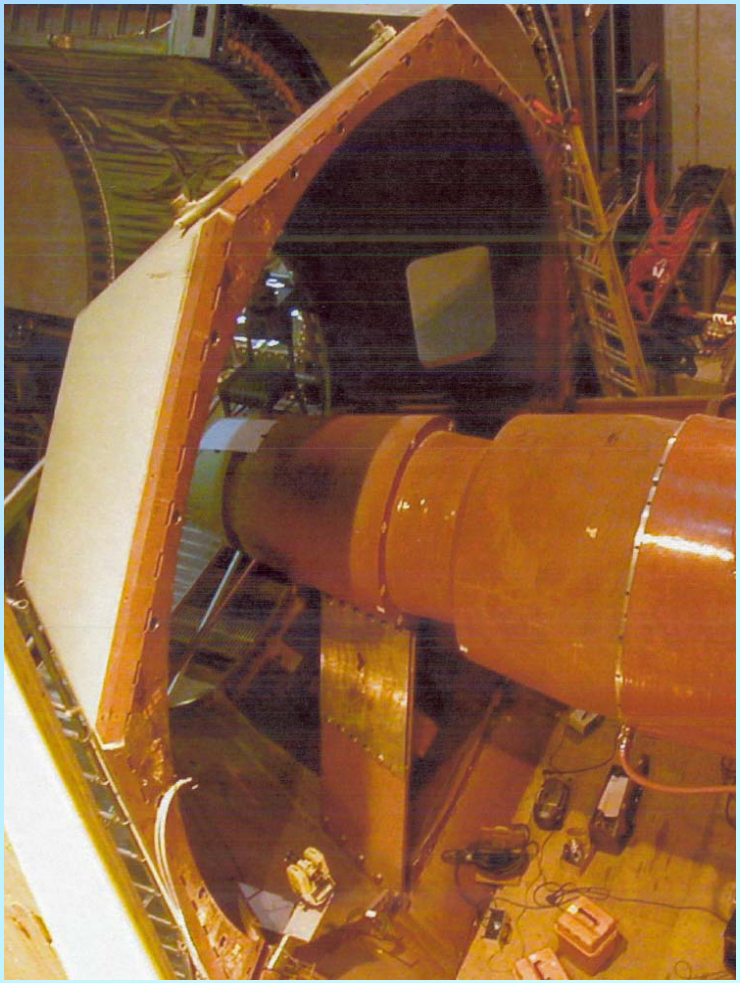
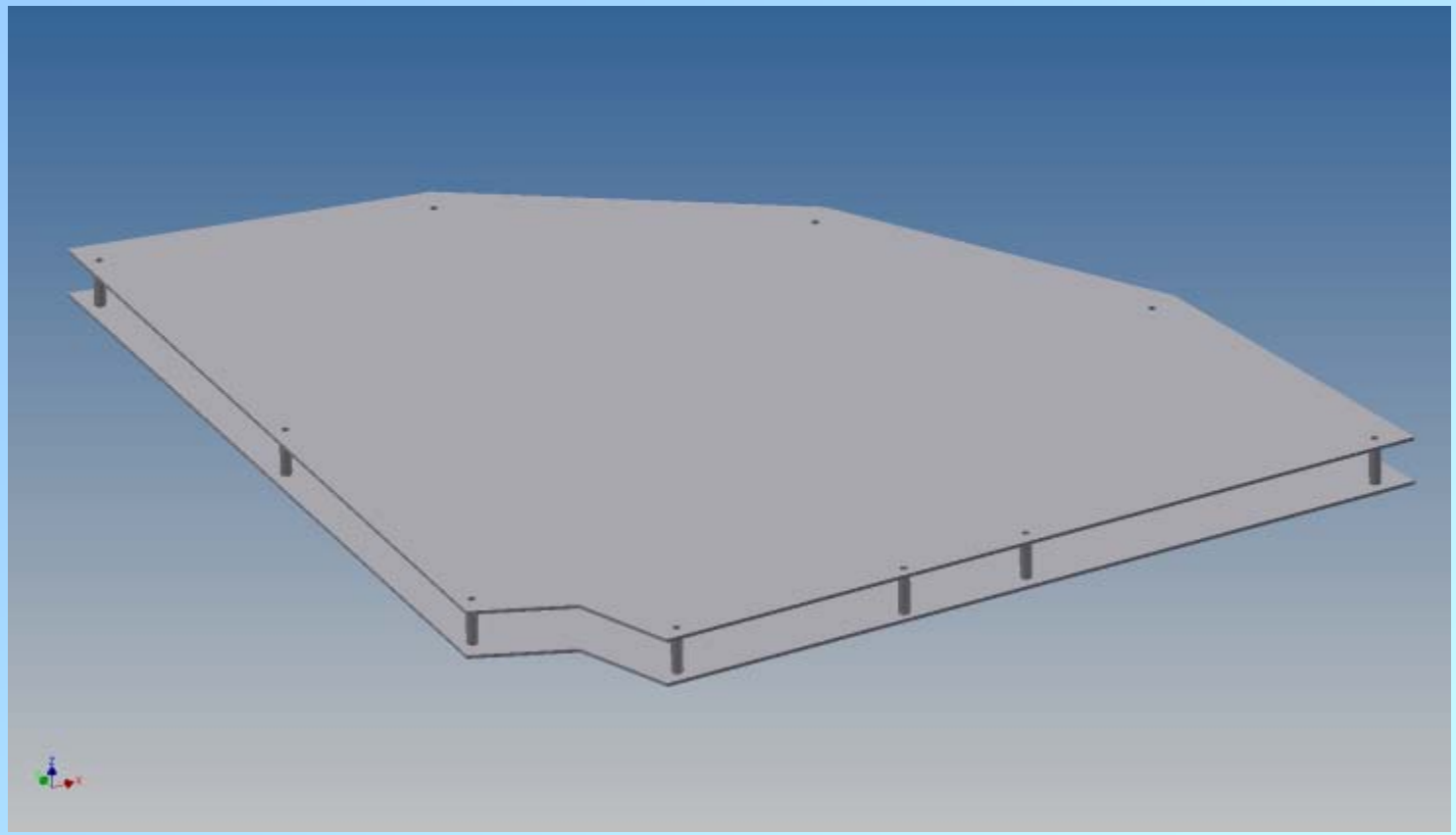




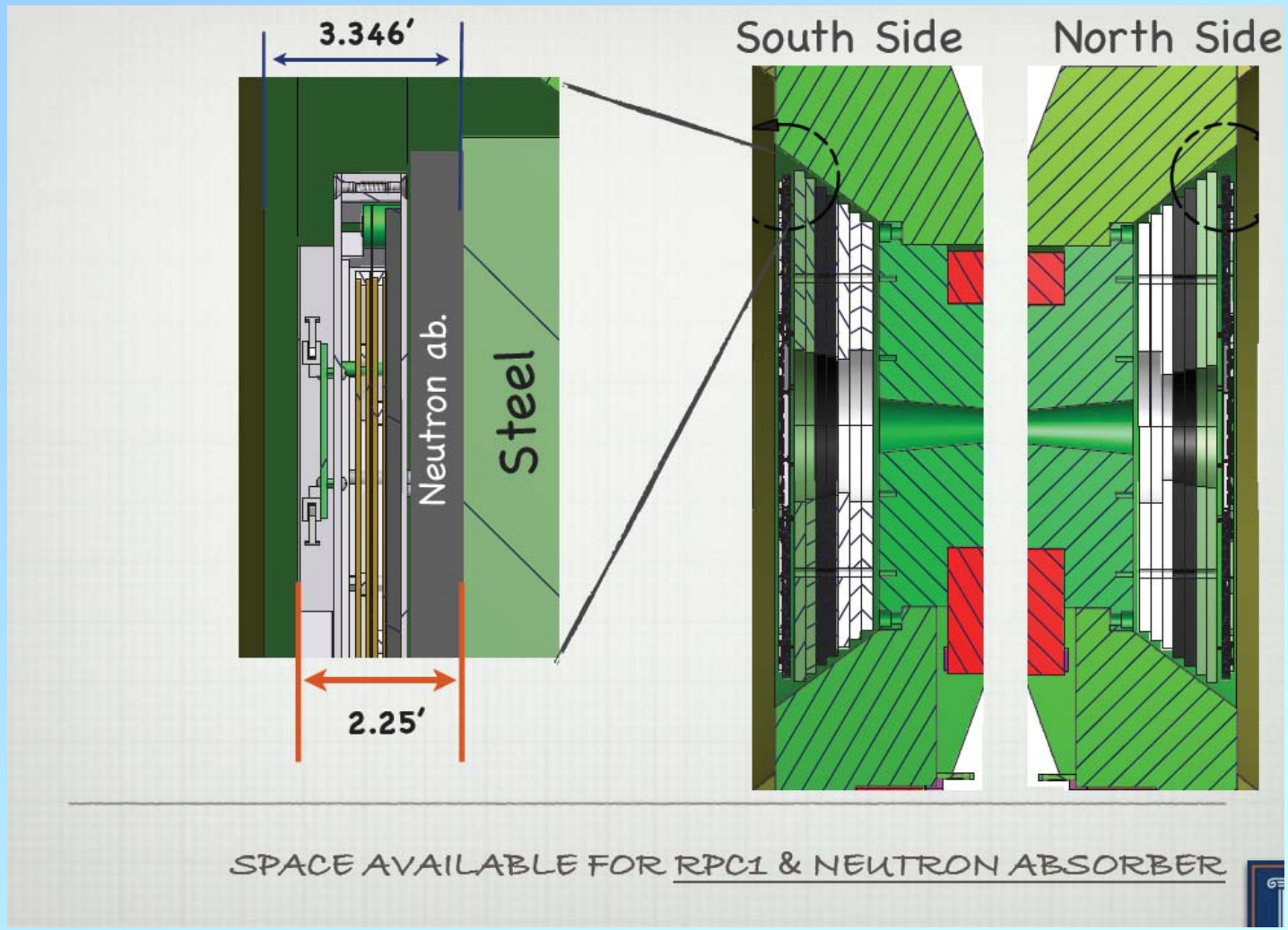
Station 2 access (MMS shown MMN is similar)

MuTr station 1 lifting fixture

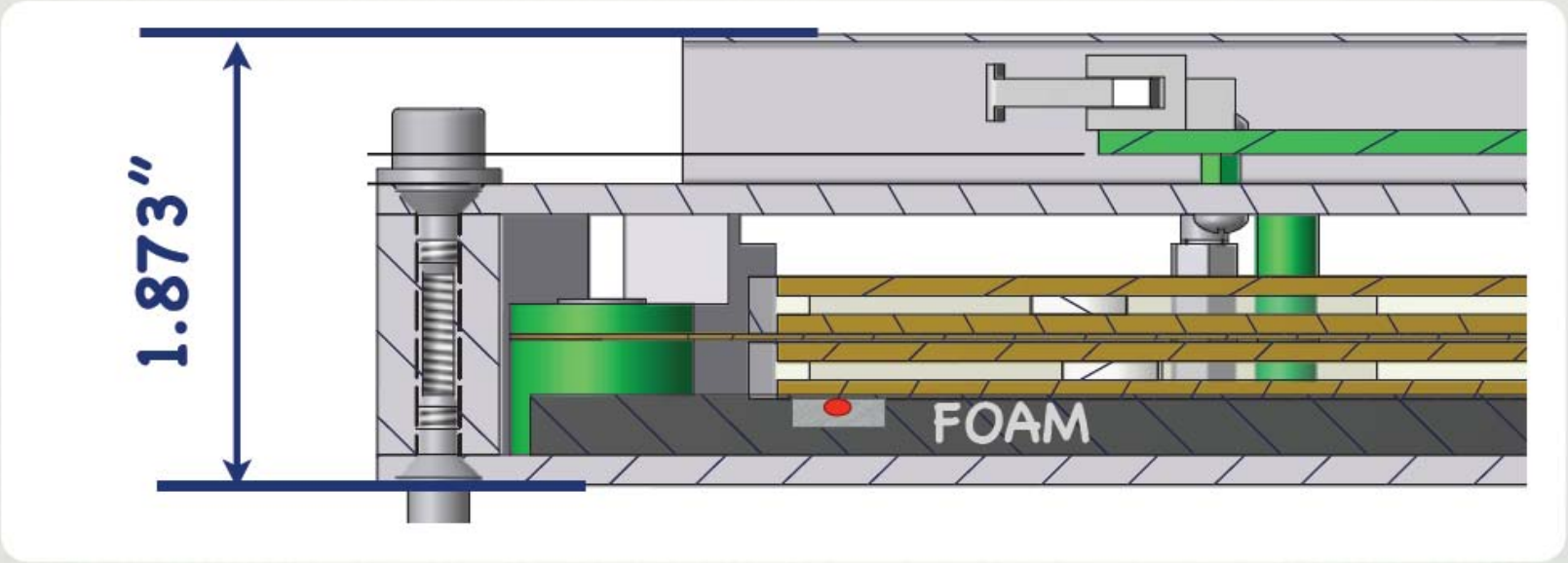


Dummy MuTr Station 1 Octant. Will be used to re-qualify vacuum lifting fixture and to practice using vacuum lifting fixture prior to removing station 1 north octants.

RPC1 Design including Thermal Neutron Absorber
(Slides from this month's DC meeting by Francesca Giordano)



Minimum thickness needed for RPC1: 1.873"

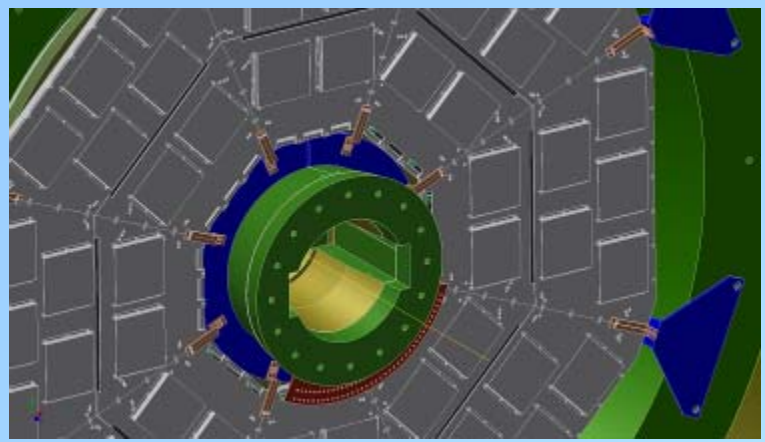


Left thickness for Neutron absorber: 0.38"

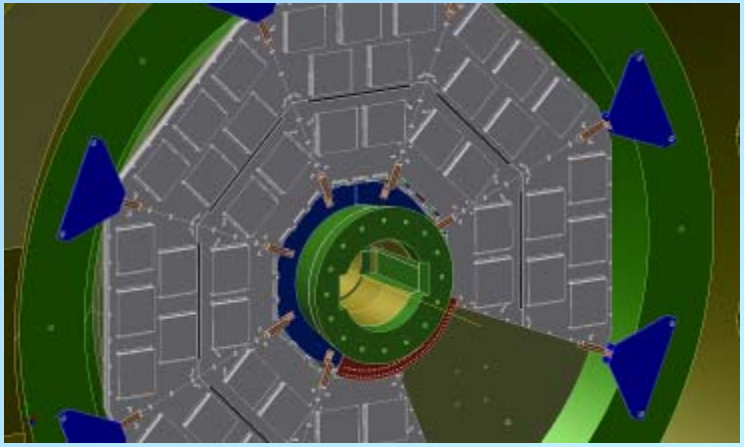
2.25": SPACE AVAILABLE FOR RPC1 & NEUTRON ABSORBER

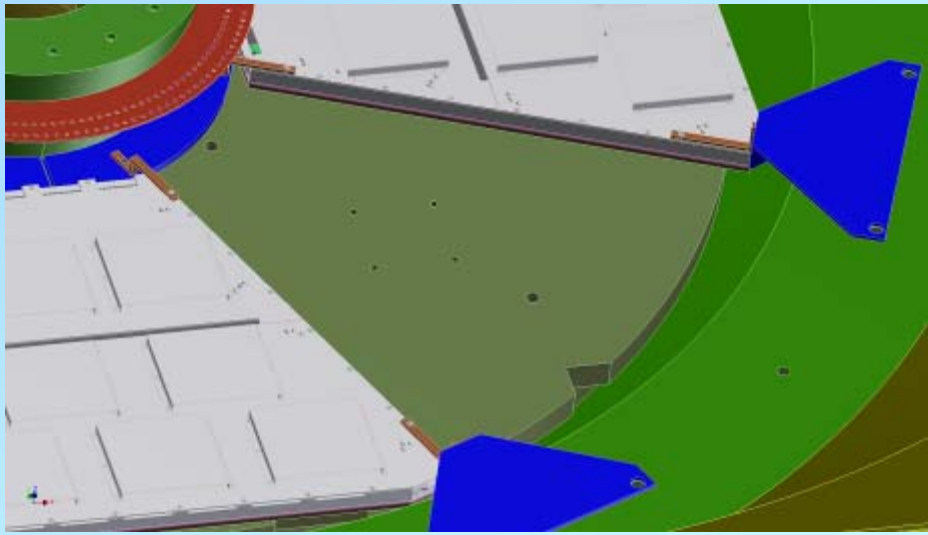
RPC1 Mounting Concept

(Preliminary)



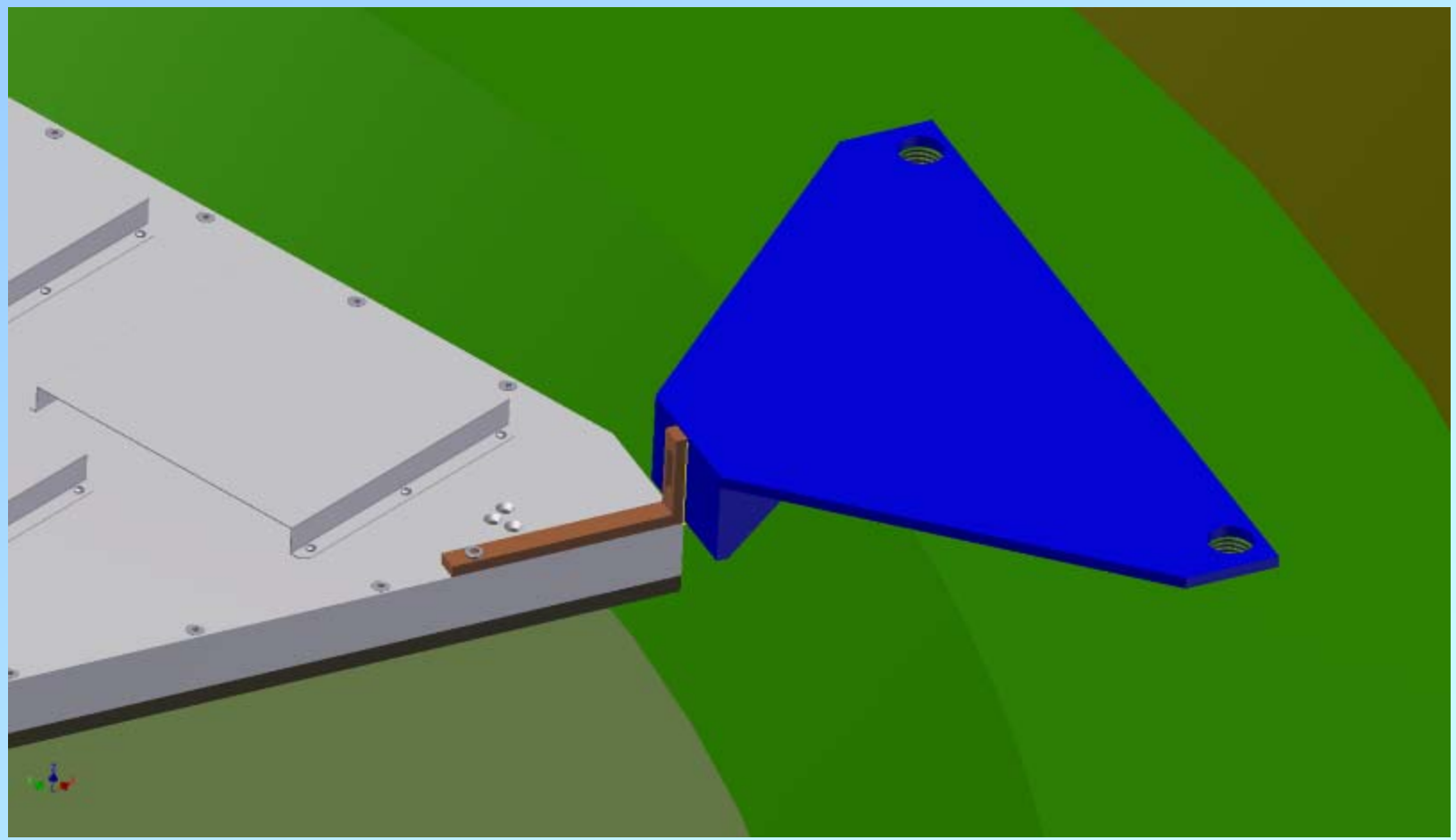
RPC1's installed (above showing 8 octants, below showing 1 octant removed to accommodate the BBC cables



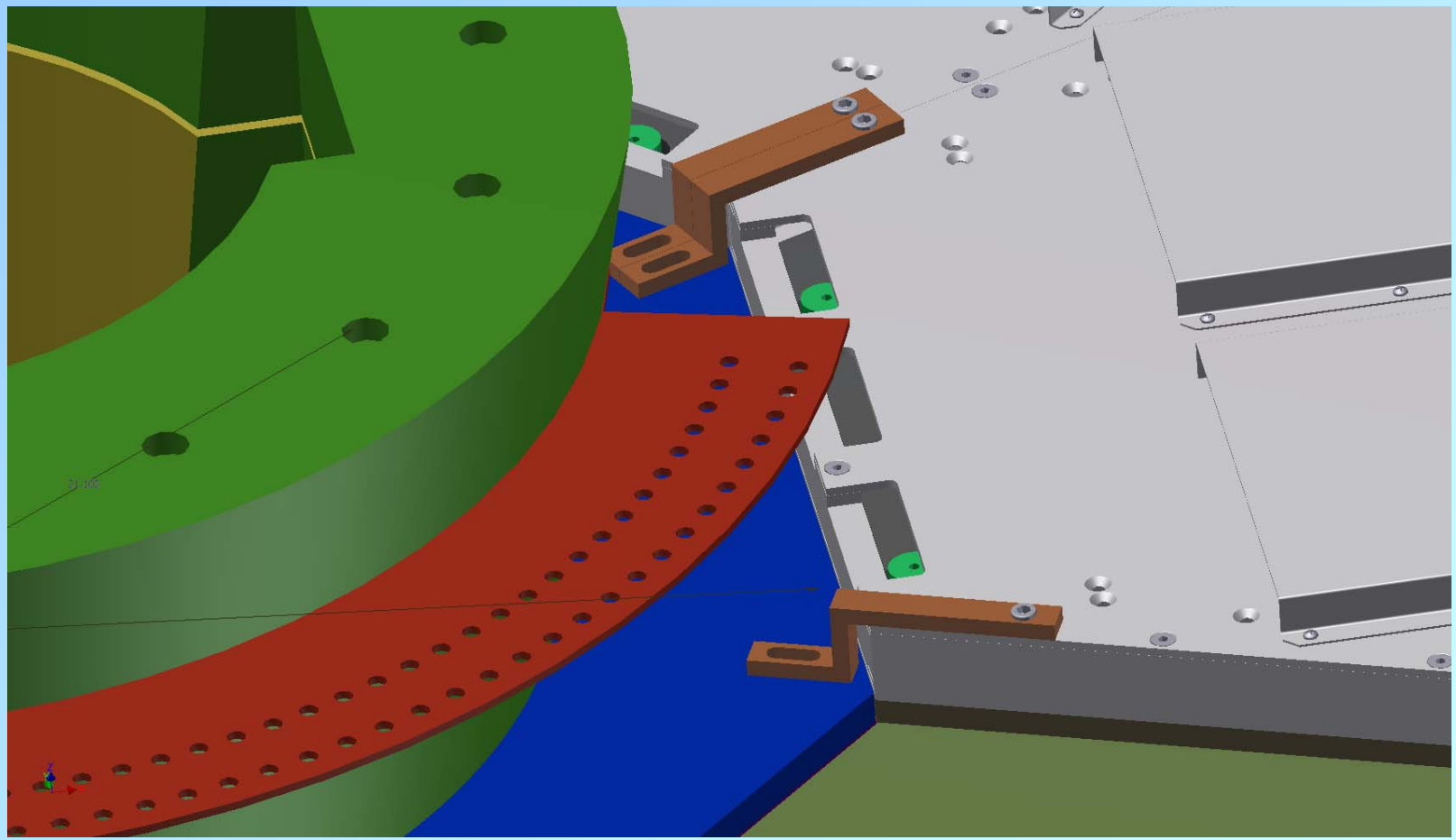


Octants are individually mounted then tied together and supported at the outer octant boundaries by brackets mounted on existing tapped holes, and on inner edges by rings which wedge against the flower pot lead liner. The absorber section is assumed to be pre-attached to the octants. Tapped thru holes in 6 places on each octant are used both to mount the absorber section and to attach the mounting brackets.

RPC1 Support at outer radius



RPC1 Support at inner radius



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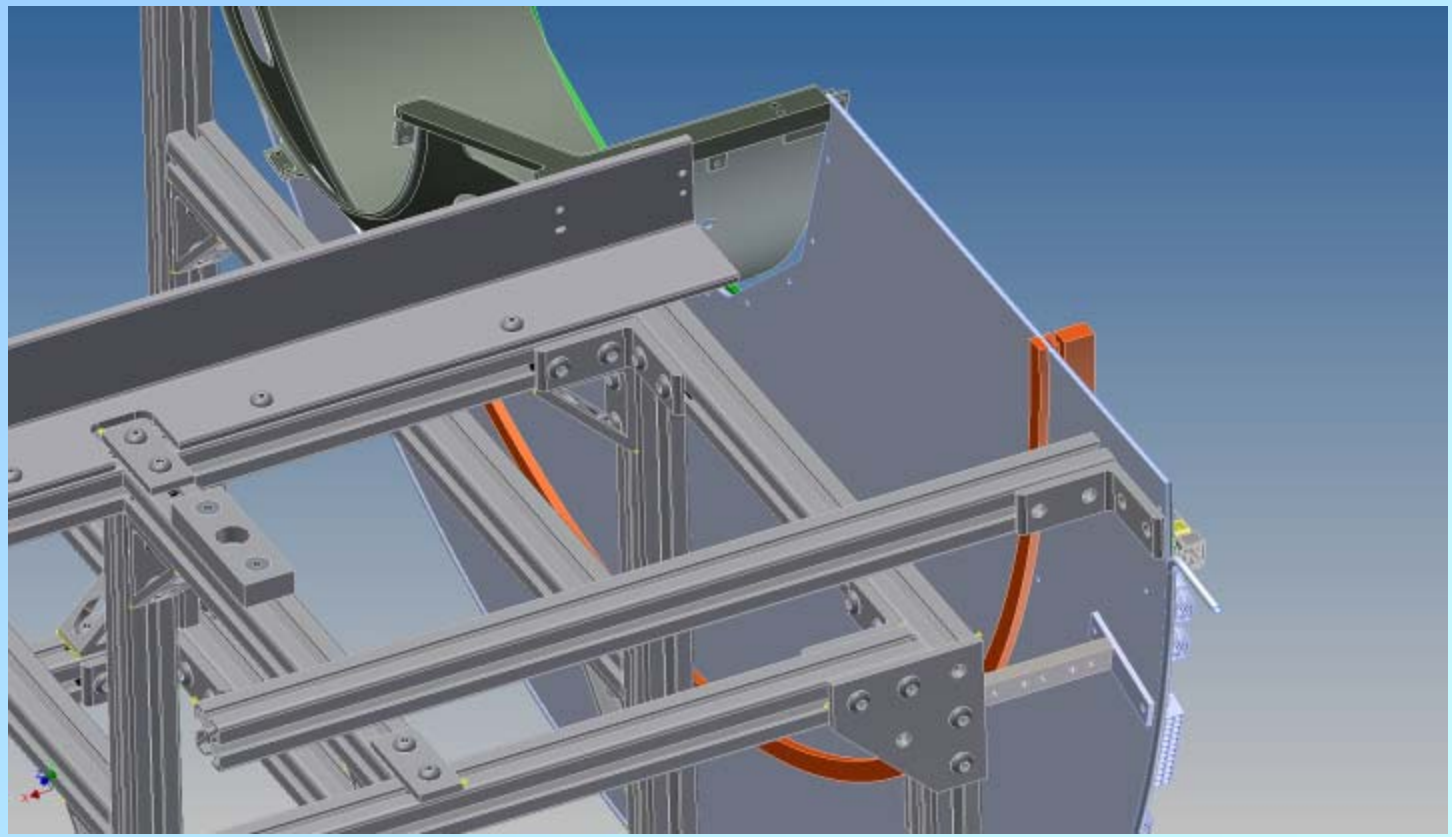

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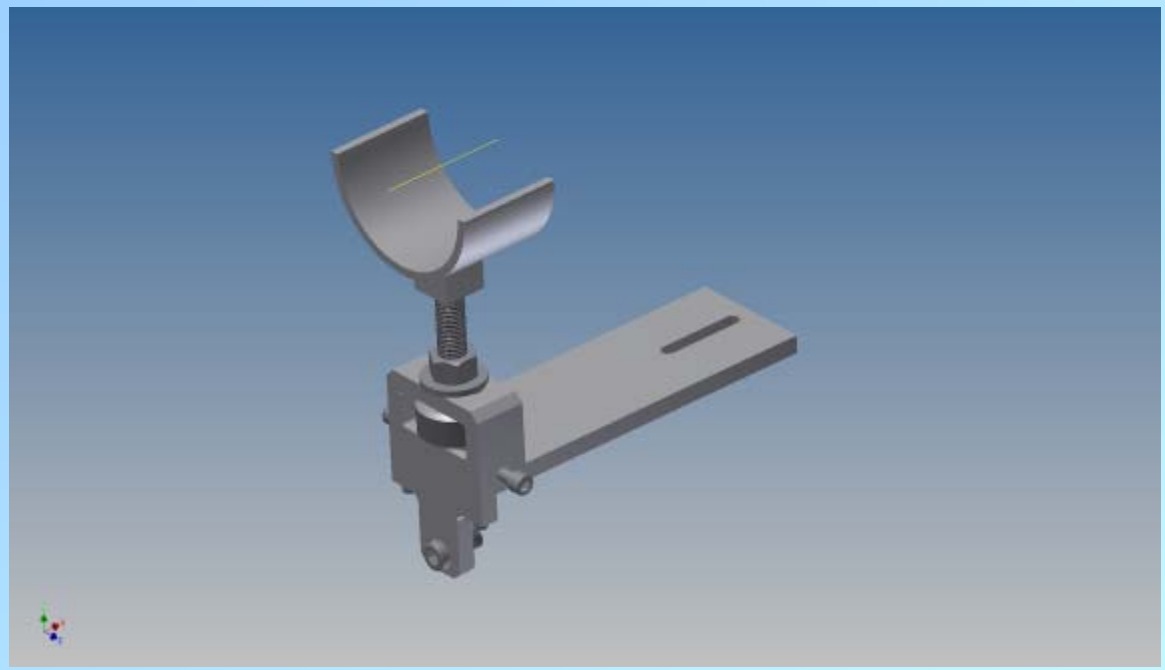

Improved Beampipe support for north station 1 support.

New wider rings have also been designed for south station 1 support. Both supports are intended to improve support when moving CM and MMS magnets during shutdown maintenance, based on experience last year and lessons learned as recorded during our 2010 shutdown closeout meeting.

Fabrication in progress at Central Shops

2010 Building Maintenance Issues

- Roof leaks in utility bathroom at northwest corner behind tech offices, over door between rack room and assembly hall, over door between control room and elect. ass'y room, southeast corner of IR and laser room.
- General maintenance for Trailer Offices (in progress)
  -Repair replace floor tiling as needed
- Flooding in AH/ Driveway
- New
  connection

Nothing New This Week

TECHNICAL SUPPORT 2011

PHENIX Procedure Review Current Status:

Nothing New This Week

147 Procedures Identified

87 Made Inactive (not currently in use, will req revisi re- activate if and when necessary, available fo re renc

9 CAD procedur relev and available on the CA

43 PH a

9 Prop ures (never previously formalized) (3 are ready for r wi be addressed during next few months.

Web retrieval of latest procedures now available from PHENIX Internal:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_procedures.htm

Safety, Security, Etc.

1. RPC Factory annual safety review

   a) All procedures reviewed and found to be up to date requiring no revisions Done
   Annual RPC Factory safety system blue sheet testing, Done
   Safety walkthru needed, schedule TBD, after blue sheets Done

   action items:

   1- Inventory and place gas cylinders into Chemical Management System. Clearly post the static inventory form near the bottle racks. -DONE
   2- Update and review RPC work Plan for 2011. – DONE
   3- Send Documentation of certification of gas safety system to C-AD ESSHQ. - Paul
   4- Send Documentation to ESSHQ of environmental discharge of RPC for year 2011. Done
   5- Repair exit sign in RPC tent. – Done

2. FoCal Prototype safety review

   a) Documents prepared and submitted for review – Done

   b) Installation procedure and work permit in progress - Waiting for prototype, now expect prototype to be ready by end of May

   c) Assembly of prototype and design of installation/support structure in progress – wire bonding in progress? (Fabrication Done)

   d) Expect to install during a maintenance access period sometime in May?

Safety, Security, Etc.

3. EMS/OSH Registration audit will take place June 2-3.

   CAD personnel will be looking around for calibration issues, inspection issues, etc. Please help them and cooperate as necessary, they are here to make sure we are in compliance before the audit takes place.

   More on this in future weeks

4. Training Update – A few need to get their ODH1 training up to Date. Most everything else is OK. Update in email today

Where To Find PHENIX Engineering Info

Kentucky Derby this Saturday

Will a new Triple Crown Winner emerge??

Links for the weekly planning meeting slides, archives of past meeting slides,long term planning, pictures, videos and other technical info can be found on the PHENIX Engineering web site:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm